



NASA SBIR 2005 Phase I Solicitation

X2.01 Advanced Materials

Lead Center: LaRC

Participating Center(s): GRC, MSFC

Technology areas included in this subtopic are high performance, super lightweight structural materials, space-durable materials, multifunctional materials, and flexible material systems. Materials of interest include ceramics, metals, polymers, and their composites as well as coatings for erosion resistance and environmental protection. Proposals with innovative and revolutionary ideas in the area of advanced materials are sought for explorations applications such as:

- Flexible fabrics and thermal insulation for spacesuits and habitats;
- High strength-to-weight and high temperature composite materials for lightweight vehicle structures and power and propulsion systems;
- Self-healing materials to repair damage to spacesuits, habitats, and wire insulation electronics, sensing, and actuators for monitoring system health and adapting to changing mission conditions;
- Flexible fabrics relevant to mission needs such as inflatable systems for ballutes, habitats, airbags, parachutes, and suits;
- Innovative approaches to materials systems yielding durable, lightweight, flexible films and fabrics.